

Cygan, Michael

From: Harrison, Jeff
Sent: Monday, September 15, 2003 10:59 AM
To: Cygan, Michael
Cc: Jeff Harrison
Subject: PCT/US02/30019

Mike

Attached is search history and the extra citations with swell#####



US02 30019.rtf

Jeff

Jeff Harrison
Team Leader, STIC-EIC2800
CP4-9C18, 703-306-5429

FILE 'HCAPLUS' ENTERED AT 10:08:50 ON 15 SEP 2003
L1 20 S ("DUBE CHRISTOPH E"/AU OR "DUBE CHRISTOPHER E"/AU OR "DUBE CHRISTOPHER E"/IN)
L2 1 S L1 AND IMPRINT#####
L3 SEL PLU=ON L2 1- PRN : 1 TERM

FILE 'WPIX' ENTERED AT 10:10:08 ON 15 SEP 2003
L4 1 S L3

FILE 'HCAPLUS' ENTERED AT 10:11:35 ON 15 SEP 2003
L5 1725 S MOLECUL#####(2A) IMPRINT#####

FILE 'REGISTRY' ENTERED AT 10:12:38 ON 15 SEP 2003
L6 1 S COPPER/CN

FILE 'HCAPLUS' ENTERED AT 10:12:47 ON 15 SEP 2003
L7 443150 S L6
L8 16 S L5 AND L7
L9 1 S L8 AND RESIST#####
L10 4 S L8 AND SWELL#####
L11 0 S L8 AND (EXPAN##### OR ENLARG#####)
L12 3 S (L9 OR L10) NOT L2
L13 91920 S "SWELLING, PHYSICAL"/CT OR SWELL#####
L14 188476 S "ELECTRIC RESISTANCE"/CT OR RESISTIVITY OR
 ELECTRIC#####(2A) RESISTANCE
L15 62 S L5 AND L13
L16 4 S L5 AND L14
L17 4 S L15 AND (L6 OR COPPER OR CU)
L18 0 S L17 NOT (L2 OR L16 OR L10)
L19 12418 S MOLECULAR RECOGNITION
L20 56 S L19 AND L13
L21 7 S L19 AND L14
L22 265 S L19 AND (L6 OR COPPER OR CU)
L23 4 S L20 AND L22
L24 0 S L20 AND L21
L25 0 S L22 AND L21
L26 0 S L23 NOT (L2 OR L16 OR L10)
L27 13756 S L5 OR L19
L28 92 S L13 AND L27
L29 62 S L28 AND IMPRINT#####
L30 4 S L29 AND (L6 OR COPPER OR CU)
L31 4 S L29 AND (RESIST? OR CONDUCT? OR IMPED?)
L32 3 S L31 NOT L30

FILE 'ANABSTR' ENTERED AT 10:29:48 ON 15 SEP 2003
L33 472 S (MOL OR MOLECUL#####)(2A) IMPRINT#####
L34 21 S L33 AND SWELL#####
L35 10 S L33 AND (L6 OR COPPER OR CU)
L36 20 S L33 AND (RESIST? OR CONDUCT? OR IMPED?)
L37 1 S L35 AND L36
L38 2 S L33 AND (EXPAN##### OR ENLARG#####)

FILE 'INSPEC' ENTERED AT 10:35:28 ON 15 SEP 2003
L39 438 S SWELL#####(5A) POLYMER?
L40 1 S L39 AND CU/CHI
L41 3 S L39 AND IMPRINT?

FILE 'SCISEARCH' ENTERED AT 10:38:40 ON 15 SEP 2003
L42 2569 S MOSBACH K?/RE
L43 428 S L42 AND IMPRINT#####
L44 8 S L43 AND SWELL#####
L45 9 S L43 AND (CU OR COPPER)
L46 10 S L43 AND (RESISTANCE OR RESISTIVIT? OR
 OHM##### OR IMPED#####)
L47 0 S L44 AND L45

L48 2 S L44 AND L46
L49 0 S L45 AND L46

FILE 'HCAPLUS' ENTERED AT 10:42:14 ON 15 SEP 2003
L50 55 S L15 NOT (L2 OR L16 OR L10 OR L30 OR L32)
L51 2 S L50 AND SWELL####/TI
L52 15 S L50 NOT (L51 OR POLYMERIZATION)
L53 38 S L50 NOT (L51 OR L52)

L48 ANSWER 2 OF 2 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN
AN 2002:119199 SCISEARCH
GA The Genuine Article (R) Number: 518KV
TI Imprinting of nucleotide and monosaccharide recognition sites in acrylamidephenylboronic acid-acrylamide copolymer membranes associated with electronic transducers
AU Sallacan N; Zayats M; Bourenko T; Kharitonov A B; Willner I (Reprint)
CS Hebrew Univ Jerusalem, Inst Chem, IL-91904 Jerusalem, Israel (Reprint)
CYA Israel
SO ANALYTICAL CHEMISTRY, (1 FEB 2002) Vol. 74, No. 3, pp. 702-712.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA.
ISSN: 0003-2700.
DT Article; Journal
LA English
REC Reference Count: 73
AB Molecular recognition sites for the nucleotides adenosine 5'-monophosphate (1), guanosine 5'-monophosphate (2), cytosine 5'-monophosphate (3), and uridine 5'-monophosphate (4) are imprinted in an acrylamide-acrylamidephenylboronic acid copolymer (5) membrane. The imprinted membranes are assembled on piezoelectric Au. quartz crystals or Au electrodes via electropolymerization or on the gate surface of an ISFET device by radical polymerization. The imprinted membranes reveal selectivity toward the imprinted nucleotide, and the association of the respective nucleotides with the recognition sites is transduced by the following: (i) microgravimetric, quartz crystal microbalance (QCM) measurements; (ii) Faradaic impedance analyses, and (iii) potentiometric responses of the ISFET devices. While the microgravimetric QCM measurements reflect the swelling of the polymers upon the association of the nucleotides with the recognition sites, the ISFET response is due to the charging of the polymer membrane as a result of the formation of the nucleotide-boronate complex. The selective detection of the nucleotides may lead to new DNA/RNA sequencing methods. Also, specific recognition sites for beta-D(+)glucose (6), D(+)galactose (7), and beta-D(-)-fructose (8) were imprinted in an acrylamide-actylamidephenylboronic acid copolymer (5) membrane associated with an ISFET device. Selective sensing of the respective monosaccharides is accomplished in the presence of the imprinted membrane-functionalized ISFET devices.

Referenced Author | Year | VOL | PG | Referenced Work
(RAU) | (R PY) | (R VL) | (R PG) | (R WK)

MOSBACH K | 1996 | 14 | 163 | BIO-TECHNOL <--

L52 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:612747 HCAPLUS
DN 138:309061
TI Glucose binding to **molecularly imprinted** polymers
AU Seong, Hasoo; Lee, Hai-Bang; Park, Kinam
CS Departments of Pharmaceutics and Biomedical Engineering, Purdue University, West Lafayette, IN, 47907, USA
SO Journal of Biomaterials Science, Polymer Edition (2002), 13(6), 637-649
CODEN: JBSEEA; ISSN: 0920-5063
PB VSP BV
DT Journal

L12 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:70868 HCAPLUS
DN 130:223620
TI Required properties for functional monomers to produce a metal template effect by a surface **molecular imprinting** technique
AU Yoshida, Masahiro; Uezu, Kazuya; Goto, Masahiro; Furusaki, Shintaro
CS Department of Chemical Systems and Engineering Graduate School of Engineering, Kyushu University, Hakozaki Fukuoka, 812-8581, Japan
SO Macromolecules (1999), 32(4), 1237-1243
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38
AB The authors investigated the properties required to design functional monomers which produce an imprint effect in prepd. metal-imprinted polymers. Novel organophosphorus functional monomers were synthesized, and zinc-imprinted polymers were prepd. with the functional monomers by a surface **mol. imprinting** technique. The competitive adsorption behavior of zinc and copper ions on the surface-imprinted polymers was examd., and the template effect was characterized. A slight structural change in the functional monomers, which interact with target metal ions (Zn ions in this study), resulted in a favorable change in metal recognition by the zinc-imprinted polymers. It was found that the presence of arom. rings and a suitable straight alkyl chain in the functional monomer in addn. to a high binding affinity to the target metals renders mol. recognition on the surface of the imprinted polymers effective.
IT 7440-50-8, Copper, processes 7440-66-6, Zinc, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(required properties for functional monomers to produce metal template effect by surface **mol. imprinting** technique)

L16 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:186787 HCAPLUS
DN 128:168250
TI Imprinted Membranes for Sensor Technology: Opposite Behavior of Covalently and Noncovalently Imprinted Membranes
AU Piletsky, Sergey A.; Piletskaya, Elena V.; Panasyuk, Tatyana L.; El'skaya, Anna V.; Levi, Rafael; Karube, Isao; Wulff, Guenter
CS Institute of Molecular Biology and Genetics, Academy of Sciences of Ukraine, Kiev, 252143, Ukraine
SO Macromolecules (1998), 31(7), 2137-2140
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 9, 63
AB New types of polymeric membranes with mol. recognition sites for L-phenylalanine (L-Phe), 6-amino-1-propyluracil, atrazine, and sialic acid were prepd. using the mol. imprinting approach. The membrane synthesis includes radical polymn. of ethylene glycol dimethacrylate and functional monomers in the presence of a template. Several compds. including (diethylamino)ethyl methacrylate, methacrylic acid, allylamine, and (4-vinylphenyl)boronic acid were used as functional monomers, which are able to form covalent, ionic, or hydrogen bonds with the corresponding templates. Template specific conductometric sensors, based on these polymers, were constructed and studied. An opposite response of covalently vs. noncovalently imprinted membranes was demonstrated and discussed in detail. Sensors based on these materials could detect the target mols. at concns. of 1-50 μ M in soln. The high specificity and stability of these imprinted membranes render them promising alternatives to enzymes, antibodies, and other natural receptors usually used in sensor technol.
IT **Electric resistance**
Membranes, nonbiological
Sensors
(prepn. and characterization of imprinted polymeric membranes for sensor technol.)
IT Sialic acids
RL: NUU (Other use, unclassified); USES (Uses)
(templates; prepn. of imprinted polymeric membranes for sensor technol. in presence of)

| L Number | Hits | Search Text | DB | Time stamp |
|----------|------|--|---|------------------|
| 5 | 176 | (gas adj sensor) and (resistance near4 difference) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 15:18 |
| 6 | 1903 | ((73/23.3) or (73/31.05) or (338/34) or (422/82.02) or (422/98)).CCLS. | USPAT | 2003/09/15 16:09 |
| 7 | 1154 | ((73/23.3) or (73/31.05) or (338/34) or (422/82.02) or (422/98)).CCLS. | US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 16:09 |
| - | 83 | ((molecular\$2 near imprint\$2) with polymer) and (resistance or current or impedance) and sensor | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 12:51 |
| - | 4 | ((molecular\$2 near imprint\$2) with polymer) and (resistance or current or impedance) and swell | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/12 14:51 |
| - | 4 | ((molecular\$2 near imprint\$2) with polymer) and (resistance or current or impedance) and sensor) and ((molecular\$2 near imprint\$2) with polymer) and (resistance or current or impedance) and swell) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/12 14:50 |
| - | 4 | ((molecular\$2 near imprint\$2) with polymer) and (resistance or current or impedance) and sensor) and ((molecular\$2 near imprint\$2) with polymer) and sensor and swell) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/12 14:51 |
| - | 8 | ((molecular\$2 near imprint\$2) with polymer) and sensor and swell | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:52 |
| - | 123 | ((molecular\$2 near imprint\$2) with polymer) and sensor | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:45 |
| - | 39 | mosbach.in. and imprint\$2 | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:45 |
| - | 12 | ((molecular\$2 near imprint\$2) with polymer) and swell | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:52 |
| - | 8 | ((molecular\$2 near imprint\$2) with polymer) and sensor and swell | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:52 |
| - | 4 | ((molecular\$2 near imprint\$2) with polymer) and swell) not ((molecular\$2 near imprint\$2) with polymer) and sensor and swell) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:52 |
| - | 145 | mosbach.in. | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2003/09/15 09:54 |

| | | | | |
|---|------|--|---|------------------|
| - | 86 | (gas adj sensor) and (specific with (nonspecific or non\$specific or (non adj specific))) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 12:52 |
| - | 43 | (gas adj sensor) and (specific with (nonspecific or non\$specific or (non adj specific))) and resistance | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 12:57 |
| - | 76 | (gas adj sensor) and (subtract) and resistance | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 12:57 |
| - | 19 | (gas adj sensor) and (subtract) and resistance and array | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 13:00 |
| - | 9 | (gas adj sensor) and (subtract) and (resistance with difference) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 13:01 |
| - | 291 | (gas adj sensor) and (resistance with difference) | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 15:17 |
| - | 44 | (gas adj sensor) and (resistance with difference) and array | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 13:01 |
| - | 3057 | ((73/23.3) or (73/31.05) or (338/34) or (422/82.02) or (422/98)).CCLS. | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2003/09/15 13:33 |
| - | 2035 | ((73/23.3) or (73/31.05) or (338/34) or (422/82.02) or (422/98)).CCLS. | USPAT; US-PGPUB | 2003/09/15 13:33 |